

Applicant: Elsa A.J.M. GOULMY

Serial No.: 09/269,250

Filed: May 21, 1999

Page 2

**IN THE CLAIMS:**

Please cancel claims 1 and 13, and amend claims 3-7, 9, 11, 12, 14-17 and 20-22 as follows:

1. (Canceled)
2. (Previously presented) Method for typing of alleles of the Minor Histocompatibility Antigen HA-1 in a sample, the method comprising detecting polymorphic nucleotides in the cDNA or genomic nucleic acids of said alleles, thereby typing the alleles, wherein said alleles are HA-1 H or HA-1 R alleles, or a combination thereof with a sequence as shown in SEQ ID NOS 17 or 19.
3. (Currently amended) Method for genomic typing according to claim 1, with said claim 2, the method comprising:
  - a. contacting the genomic polynucleic acids in the sample with at least one pair of primers, whereby the 5'- and /or the 3' primer of said at least one pair of primers specifically hybridize to target regions comprising polymorphic nucleotides in said alleles, and performing an amplification reaction;
  - b. for each of said at least one pair of primers detecting whether or not in step a. an amplification product is formed;
  - c. inferring from the result of step b. which HA-1 allele is present in said sample.

4. (Currently amended) Method according to claim 1, further comprising: said claim 3, wherein the at least one pair of primers comprises a 5'-primer that specifically hybridizes to a target region comprising the nucleotides at position 4 or at positions 4 and 8 in the HA-1 allele, or said at least one pair of primers comprises a 3'-primer that specifically hybridizes to a target region comprising the nucleotides at position 8 or at positions 4 and 8 in the HA-1 allele, with said positions being indicated in SEQ ID NOS 17 and 19.
5. (Currently amended) Method according to claim 4, further characterized in that: said wherein the 5'-primer is combined with a 3'-primer specifically hybridizing to a target region in intron a, and/or said 3'-primer is combined with a 5'-primer specifically hybridizing to a target region in exon a, with intron a and exon a being indicated in SEQ ID NOS: 21-22.
6. (Currently amended) Method according to claim 4, further characterized in that wherein the primers are chosen from the following list: SEQ ID NO 2, SEQ ID NO 3, SEQ ID NO 4, SEQ ID NO 5, SEQ ID NO 6, or SEQ ID NO 7.
7. (Currently amended) Method for genomic typing according to claim 1, with said claim 2, the method comprising:

Applicant: Elsa A.J.M. GOULMY

Serial No.: 09/269,250

Filed: May 21, 1999

Page 4

- a. amplifying a fragment of said alleles, with said fragment comprising at least one polymorphic nucleotide, by use of at least one pair of primers specifically hybridizing to conserved target regions in said alleles;  
b. hybridizing the amplified product of step a. to at least one probe specifically hybridizing to a target region comprising one or more polymorphic nucleotides in said allele;  
c. inferring from the result of step b. which HA-1 allele is present in said sample.
8. (Currently amended) Method according to claim 7, further characterized in that said wherein the at least one pair of primers comprises a 5'-primer specifically hybridizing to a conserved target region in exon a and/or a 3'-primer specifically hybridizing to a conserved target region in intron a, with exon a and intron a being indicated in SEQ ID NOS: 21-22.
9. (Currently amended) Method according to claim 7, further characterized in that said wherein the at least one probe specifically hybridizes to a target region comprising the nucleotides at position 8 and/or 4 or at positions 4 and/or 8 in the HA-1 allele, with said positions being indicated in SEQ ID NOS 17 and 19.
10. (Currently amended) Method according to claim 7, further characterized in that said wherein the primers are chosen from the following list: SEQ ID

NO 2, SEQ ID NO 8, SEQ ID NO 9, or SEQ ID NO 10, and/or said and/or  
the probes are chosen from the following list: SEQ ID NO 11, SEQ ID NO  
12, SEQ ID NO 13, SEQ ID NO 14, SEQ ID NO 15, or SEQ ID NO 16.

11. (Currently amended) A primer ~~for use in a method according to claim 1 for~~  
genomic typing of alleles of the Minor Histocompatibility Antigen HA-1  
capable of specifically binding to SEQ ID NO 1, SEQ ID NO 17, or SEQ ID  
NO 19 under stringent conditions.
12. (Original) A probe for use in a method according to claim 7 for genomic  
typing of alleles of the Minor Histocompatibility Antigen HA-1.
13. (Canceled)
14. (Original) A method for genomic typing of alleles of the Minor  
Histocompatibility Antigen HA-1 according to claim 2 by means of sequencing  
said allele.
15. (Currently amended) A diagnostic kit for typing of alleles of the Minor  
Histocompatibility Antigen HA-1 according to claim 3, with said kit comprising:
  - a. at least one primer according to claim 1; capable of specifically binding  
to SEQ NOS 1, 17 or 19 under stringent conditions, an isolated nucleic  
acid displaying at least 90% homology to the isolated nucleic acid or a

Applicant: Elsa A.J.M. GOULMY

Serial No.: 09/269,250

Filed: May 21, 1999

Page 6

fragment of the polynucleic acids of about 5 to 50 nucleotides long that can be used as a primer or a probe for HA-1 typing;

- b. optionally, an enzyme and/or reagents enabling the amplification reaction; and
- c. optionally, means enabling detection of the amplified products.

16. (Currently amended) A diagnostic kit for typing of alleles of the Minor Histocompatibility Antigen HA-1 according to claim 7, with said kit comprising:

- a. at least one primer according to claim 10, wherein the primer is SEQ ID NOS 2, 8, 9 or 10;
- b. at least one probe according to claim 10, wherein the probe is SEQ ID NOS 11, 12, 13, 14, 15 or 16; and
- c. optionally, an enzyme and/or reagents enabling the amplification reaction, and/or reagents enabling the hybridization reaction.

17. (Currently amended) A diagnostic kit for typing of alleles of the Minor Histocompatibility Antigen HA-1 with said kit comprising:

- a. at least one primer according to claim 10 wherein the primer is SEQ ID NOS 2, 8, 9, or 10; and
- b. optionally, an enzyme and/or reagents enabling the amplification reaction, and/or reagents enabling the sequencing reaction.

Applicant: Elsa A.J.M. GOULMY

Serial No.: 09/269,250

Filed: May 21, 1999

Page 7

18. (Withdrawn) A method for typing HA-1 alleles comprising using antibodies specifically detecting the HA-1 alleles as shown in SEQ ID NOS: 17-20.
19. (Withdrawn) A diagnostic kit for typing HA-1 alleles comprising antibodies specifically detecting the HA-1 alleles as shown in SEQ ID NOS: 17-20.
20. (Currently amended) An isolated polynucleic acid comprising consisting of SEQ ID NO 1,[ or] an isolated polynucleic acid displaying at least [80%] 90% sequence homology to the isolated polynucleic acid, or a fragment of the polynucleic acids of about 5 to 50 nucleotides long that can be used as a primer or as a probe for HA-1 typing.
21. (Currently amended) An isolated polynucleic acid comprising consisting of SEQ ID NO 17,[ or] an isolated polynucleic acid displaying at least [80%] 90% sequence homology to the isolated polynucleic acid, or a fragment of the polynucleic acids of about 5 to 50 nucleotides long that can be used as a primer or as a probe for HA-1 typing.
22. (Currently amended) An isolated polynucleic acid comprising consisting of SEQ ID NO 19,[ or] an isolated polynucleic acid displaying at least [80%] 90% sequence homology to the isolated polynucleic acid, or a fragment of the polynucleic acids of about 5 to 50 nucleotides long that can be used as a primer or as a probe for HA-1 typing.

Applicant: Elsa A.J.M. GOULMY  
Serial No.: 09/269,250  
Filed: May 21, 1999  
Page 8

Please enter new claims 23 and 24:

23. (New) A primer according to claim 11, wherein the nucleotide sequence of the primer is SEQ NO 2, SEQ NO 8, SEQ NO 9, or SEQ NO 10.
24. (New) A probe according to claim 12, wherein the nucleotide sequence of the probe is SEQ NO 11, SEQ NO 12, SEQ NO 13, SEQ NO 14, SEQ NO 15, or SEQ NO 16.